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EXAMINER

WERNER, DAVID N

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/737,184	KURCEREN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David N. Werner	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-19,21-23,25,27-29,31 and 32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-19,21-24,27-29,31 and 32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20081014</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This Office action for US Patent Application 10/737,184 is in response to the Request for Continued Examination filed 07 August 2008, in reply to the Final Rejection of 02 May 2008. Currently, claims 2-19, 21-23, 25, 27-29, and 31-32 are pending. Claims 20, 24, 26, and 30 are newly canceled.

2. In the previous Office action, claims 2-10 and 13-31 were rejected under 35 U.S.C. 103(a) as obvious over US 5,802,226 A (Dischert et al.) in view of US 6,526,099 B1 (Christopolous et al.). Claims 11, 12, and 32 were rejected under 35 U.S.C. 103(a) as obvious over Dischert et al. in view of Christopolous et al. and US 5,477,276 A (Oguro).

#### ***Continued Examination Under 37 CFR 1.114***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07 August 2008 has been entered.

***Information Disclosure Statement***

The information disclosure statement filed 14 October 2008 fails to comply with the provisions of 37 CFR 1.98(b)(5) and MPEP § 609 because the documents cited therein are not identified by publication date including at least month and year. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

***Response to Arguments***

4. Applicant's arguments filed with respect to claims 2, 13, and 18 have been fully considered but they are not persuasive.
5. Applicant first argues that Dischert et al. does not disclose transform coefficients "representative of residual data" (pp. 8-9). It is respectfully submitted that while Dischert et al. does not explicitly mention residual data, it was commonly known in the art at the time of the present invention that in a DCT-based digital video codec such as the one described in Dischert et al., video frames may be classified into I frames, P frames, or B frames, of which I frames comprise independently-coded data, and P frames and B frames comprise motion vector data and residual data from motion compensating the I frames over time. The encoder of Christopolous et al. demonstrates

this process, such as with motion compensator 122 in figure 1, motion compensator 307 in figure 3a., &c. Christopolous et al. states, in column 1: lines 26-49 and 61-67; and column 2: lines 1-14, that performing motion compensation on digital video data such as that found in Dischert et al. would greatly improve the compression ratio, achieving video of reasonable quality over a relatively narrow channel. Even if the encoder of Dischert et al. does not teach motion compensation, it is respectfully submitted that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Dischert et al. to operate on motion-compensated video, or to modify Dischert et al. to perform motion compensation, with the predictable improved result of a more efficiently compressed video that takes advantage of temporal redundancy between frames, and thus is able to be transmitted over a more narrow channel than a series of independently coded digital video frames alone since it has been held that to apply a known technique to a known device, method, or product ready for improvement to yield predictable results involves only routine skill in the art. MPEP 2143(D), *Dann v. Johnston*, 425 U.S. 219, 189 USPQ 257 (1976), *In re Nilssen*, 851 F.2d 1401, 7 USPQ2d 1400 (Fed. Cir. 1988).

6. Applicant next states that it would be improper to make the above modification to Dischert et al., since such a modification would be incompatible with the shufflers of Dischert et al., and thus either render the modified Dischert et al. device inoperable, or require removal of the shufflers, which would constitute an improper substantial reconstruction and redesign of the Dischert device (pp. 9-11), and because of this, there would be no rationale to modify the references (pp. 11-13). Applicant further states that

this would be the case regardless of whether the shuffling of Dischert et al. was inter-frame or intra-frame.

First, it is respectfully submitted that even if the claimed "shuffling" was performed on an inter-frame basis, it would still be proper to perform the combination with Christopolous et al. Christopolous et al. is directed to several video standards, such as H.261 or H.263 (column 3: lines 15-17). It was known in the art at the time of the present invention to transmit motion-compensated pictures in a different order than playback, so that a picture that is dependent on a future temporal picture as a reference may receive that picture prior to playback. See H.263 §§O.1–O.2. This re-ordering would be encompassed by the claimed "shuffling" of Christopolous et al.

Second, it is respectfully submitted that even if the claimed "shuffling" was a re-arrangement of portions of sub-frame data on physical tracks of a video cassette tape, as argued, this would not prevent the shuffling from being compatible with residual data. Applicant states that in data shuffling, "the portion of the video data scanned in one frame may not be the same portion that is scanned in the other frame". However, it does not appear that the shuffling in either Dischert or the Kim et al. reference presented as evidence does not output scrambled video data in which one portion of data moves about a display as it is repeatedly scanned and played, even if the data may be found in a different portion of a track in different instances as taught in Kim et al. Applicant states in pages 10 and 11 that residual data must be based on reference data in a physical scanned location that remains the same for each instance. For this assumption to be valid, it must be inferred that the physical location of each repeated

scan of a portion of data must remain the same to enable slow-speed playback as well. Although Kim et al. is focused mainly on recording and does not disclose details of a playback mode, it appears that during playback, the shuffled data is reconstructed back to an original order, presumably based on identification signal Id (column 5: line 18) and within buffer 30. It is respectfully submitted that according to a conventional shuffling operation, physical location of data on a recording medium such as a does not necessarily correspond with location of the location of the decoded data on a display. Therefore, extracting residual data from video data that is shuffled on a recording medium is possible.

Considering the above, all prior art rejections are maintained.

### ***Claim Objections***

7. Claim 21 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Currently, claim 21 depends on canceled claim 20.

### ***Claim Rejections - 35 USC § 101***

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 2-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. *Ex Parte Langemyr*, BPAI 2008-1495 (28 May 2008). The present claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 27-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 27-32 are directed to a "computer readable storage medium", first claimed as such in the amendment of 09 October 2007. There is no support in the specification for the claimed "computer-readable storage medium", with the specification instead only briefly mentioning in page 1 a "PC



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platform". Accordingly, the "computer-readable storage medium" constitutes new matter.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 2-10, 13-19, 21-23, 25, 27-29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,802,226 A (Dischert et al.) in view of US 6,526,099 B1 (Christopolous et al.). Dischert et al. teaches a video editor that operates on frequency-domain video (abstract).

Regarding claim 2, figure 4 of Dischert et al. shows video streams inputted into analog/digital interface 402 and 404, and figure 5 shows video streams inputted into digital VCR heads 418 and 526 from the helical track of a digital video cassette. In the recording apparatus of figure 4, the data is coded within coder 410, which contains a DCT module, as shown in figure 8 (column 6: lines 22-47). This DCT encoding corresponds with the claimed step of obtaining transform coefficients representative of video data. Next, the coded data is mixed with a secondary signal in mixer 80, (column 6: lines 39-47), producing a fade effect (column 7: lines 1-26). This corresponds with the claimed step of modifying the transform coefficients to achieve a video effect.

Dischert et al. is silent on residual video data or error video data. Christopoulos et al. teaches a transcoder that operates on spatial domain or frequency domain (abstract). Regarding the residual data in claim 2, Christopoulos et al. operates on video that has been coded with motion-compensated predictive coding, according to a standard video codec such as H.261 or H.263 (column 3: lines 15-17). In predictive coding, instead of transmitting every pixel value, instead only the variation between pixels is transmitted (column 1, lines 40-49).

Dischert et al. discloses the claimed invention except for modifying residual error video data. Christopoulos et al. teaches that it was known to perform functions on predictive-coded video data. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fade effect device of Dischert et al. to operate on predictive-coded video data, as taught by Christopoulos et al., since Christopoulos et al. states in column 1: lines 15-31, that such a modification would improve the compression ratio of a coded video signal.

Regarding claim 3, in Christopolous et al., a predictive (P) frame or a bidirectional (B) frame comprises motion compensated data comprising motion vectors and prediction error data, in accordance with a video codec such as H.263 (column 14: line 53—column 15: line 19).

Regarding claim 4, the DCT operation in DCT 60 in Dischert is considered a technique of video compression.

Regarding claim 5, the mixer of Dischert et al. operates over a time domain in which coefficients J and K vary over time to produce the fade effect (column 7: lines 1-26).

Regarding claim 6, as shown in figure 8 of Dischert et al., while a video signal may come from an uncompressed source that is encoded with the DCT transform in the mixer, a video signal may also be input into the mixer via a partial decoder comprising variable-length decoder 86, run-length decoder 84, and de-quantizer 82 (column 6: lines 29-40). Then, Dischert et al. discloses performing an effect on decoded quantized transform coefficients and performing inverse quantization.

Regarding claim 7, in Dischert et al., figure 10A shows that in mixer 80, a video signal comprising transform coefficients is first scaled by a fading coefficient J or K before being mixed with another video signal. It is respectfully submitted that either a fading coefficient that is multiplied by a first signal or a second signal that is added to the multiplied first signal may be considered the claimed "editing data" according to the present invention.

Regarding claim 8, Dischert et al. discloses that video data may be faded to black as part of a transition sequence (column 7, lines 5-9).

Regarding claim 9, Dischert et al. discloses that video data may be faded to black as part of a transition sequence (column 7, lines 5-9).

Regarding claim 10, Dischert et al. only teaches a fade to black. However, it would have been a matter of obvious design choice to one having ordinary skill in the art to fade to any desired color, since the applicant has not disclosed that fading to any

arbitrary color, including white, solves any stated problem or is for any particular purpose, and it appears the invention would perform equally well with fading to white.

Regarding claim 13, figure 8 of Dischert et al. discloses dequantizer 82 in a video mixer that produces dequantized transform coefficients (column 6: line 40). This corresponds with the claimed "inverse quantizer". These transform coefficients are then combined with transform coefficients from another source in mixer 80 (column 6: lines 40-47) to produce a fade effect. Then, mixer 80 corresponds with the claimed "summer", and the mixed signal corresponds with the claimed "further data".

Regarding claim 14, figure 8 of Dischert et al. discloses variable quantizer 62 that performs quantizing on the mixed signal (column 6: line 26).

Regarding claim 15, in Christopolous et al., a decoder such as for example one shown in the transform-domain transcoder of figure 9 includes a transform domain motion compensation module TD/MC. In the combination with Dischert et al., this would be added to the datapath of figure 8 after dequantizer 82. Then, this motion compensation module corresponds with the claimed "predictor", and the DCT 60 of Dischert et al., which would provide "editing data" relative to the partially decoded data, corresponds with the claimed "transform module".

Regarding claim 16, in Dischert et al., figure 10A shows that in mixer 80, a video signal comprising transform coefficients is first scaled by a fading coefficient J or K before being mixed with another video signal. It is respectfully submitted that either a fading coefficient that is multiplied by a first signal or a second signal that is added to

the multiplied first signal may be considered the claimed "editing data" according to the present invention.

Regarding claim 17, summer 80 in Dischert et al. combines transform coefficients according to coefficients J and K which vary over time to produce the fade effect (column 7: lines 1-26). Then, coefficient J or K corresponds with the claimed "editing data" that produces a video effect "in a time domain".

Regarding claim 18, this claim, and dependent claims 19, 21-23, and 25, are in means-plus-function format and so 35 U.S.C. 112, sixth paragraph, applies. Then, these claims must be interpreted as particular to the structure disclosed in the specification. *In re Donaldson Co.*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994). In the present case, the datapath of figures 8 and 10A of Dischert et al. comprising dequantizer 82, multiplier 104, adder 105, and quantizer 62 is considered analogous to the datapath of figure 4 of the present invention comprising inverse quantizer 20, multiplier 22, adder 24, and quantizer 26. In particular to the limitations of claim 18, ECC decoder 512 of Dischert et al., which extracts a digital video signal from a bitstream comprising audio and video data (column 5: lines 24-26) and provides the video signal to mixer 80 (column 6: lines 29-34), corresponds with the claimed means for providing a bitstream indicative of video data, considered as demultiplexer 10 in figure 4 of the present invention, and mixer 80, which performs a partial decoding to the DCT coefficients and combines the digital video with a fading coefficient and another video bitstream to produce a fade effect corresponds with the claimed means for

obtaining transform coefficients and combining editing data to produce a modified bitstream, considered as editing module 5 in figure 4 of the present invention.

Regarding claim 19, dequantizer 82 of Dischert et al. corresponds with the claimed inverse quantization module.

Regarding claim 21, mixer 80 of Dischert et al. corresponds with the claimed combining module.

Regarding claim 22, the examiner takes Official Notice that video cameras were well-known at the time of the invention as a source for providing video data, such as to an analog/digital interface of Dischert et al.

Regarding claim 23, Christopoulos et al. teaches that it was known to input digital video from a receiver (column 9, lines 11-13, 19-35)

Regarding claim 25, since the specification of the present invention does not describe or limit the structure of a storage medium (column 14: lines 21-23), the video cassette of Dischert et al. is considered to be encompassed by the claimed means for storing a video signal.

Regarding claim 27, at least Christopolous et al. may be implemented in hardware or software (column 8: lines 31-32, 66-67).

Regarding claim 28, in Dischert et al., a set of transform coefficients is multiplied by a fade coefficient J or K (column 6: line 67–column 7: line 11).

Regarding claim 29, in Dischert et al., two modified sets of transform coefficients are added to produce a final mixed video stream (column 7: lines 11-12).

Regarding claim 31, Dischert et al. discloses that video data may be faded to black as part of a transition sequence (column 7, lines 5-9).

14. Claims 11-12 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dischert et al. in view of Christopoulos et al. as applied to claims 1 and 27 above, and further in view of US Patent 5,477,276A (Oguro). Although Dischert et al. teaches a video editor that performs basic operations such as a dissolve, a cross-fade, and a fade to black on frequency-domain data, it does not teach advanced editing effects. Oguro teaches a DSP apparatus that performs advanced fading effects. Regarding the fade from one color to another in claims 11 and 32, Oguro can fade in or fade out to any arbitrary color (column 11, lines 22-27; lines 46-51). Regarding the fade to monochrome in claim 12, the fade system of Oguro may operate only on Y (luminance) values and not process C (chrominance) values, thus performing only black-and-white fade operations (column 11, lines 6-21).

Dischert et al., in combination with Christopoulos et al., discloses the claimed invention except for advanced fading techniques. Oguro teaches that it was known to perform fading techniques such as a fade to color or monochromatic fade. Therefore, it would have been obvious to one having ordinary skill of the art at the time the invention was made to apply the fading of Oguro to the editor of Dischert et al., since Oguro states in column 11, lines 29-51 that such a modification would simplify the circuitry needed in a fading device.

***Conclusion***

15. This action is non-final due to the new rejection of claims 2-12 under 35 U.S.C. §101.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David N. Werner whose telephone number is (571)272-9662. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. N. W./  
Examiner, Art Unit 2621



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/Mehrdad Dastouri/

Supervisory Patent Examiner, Art Unit 2621